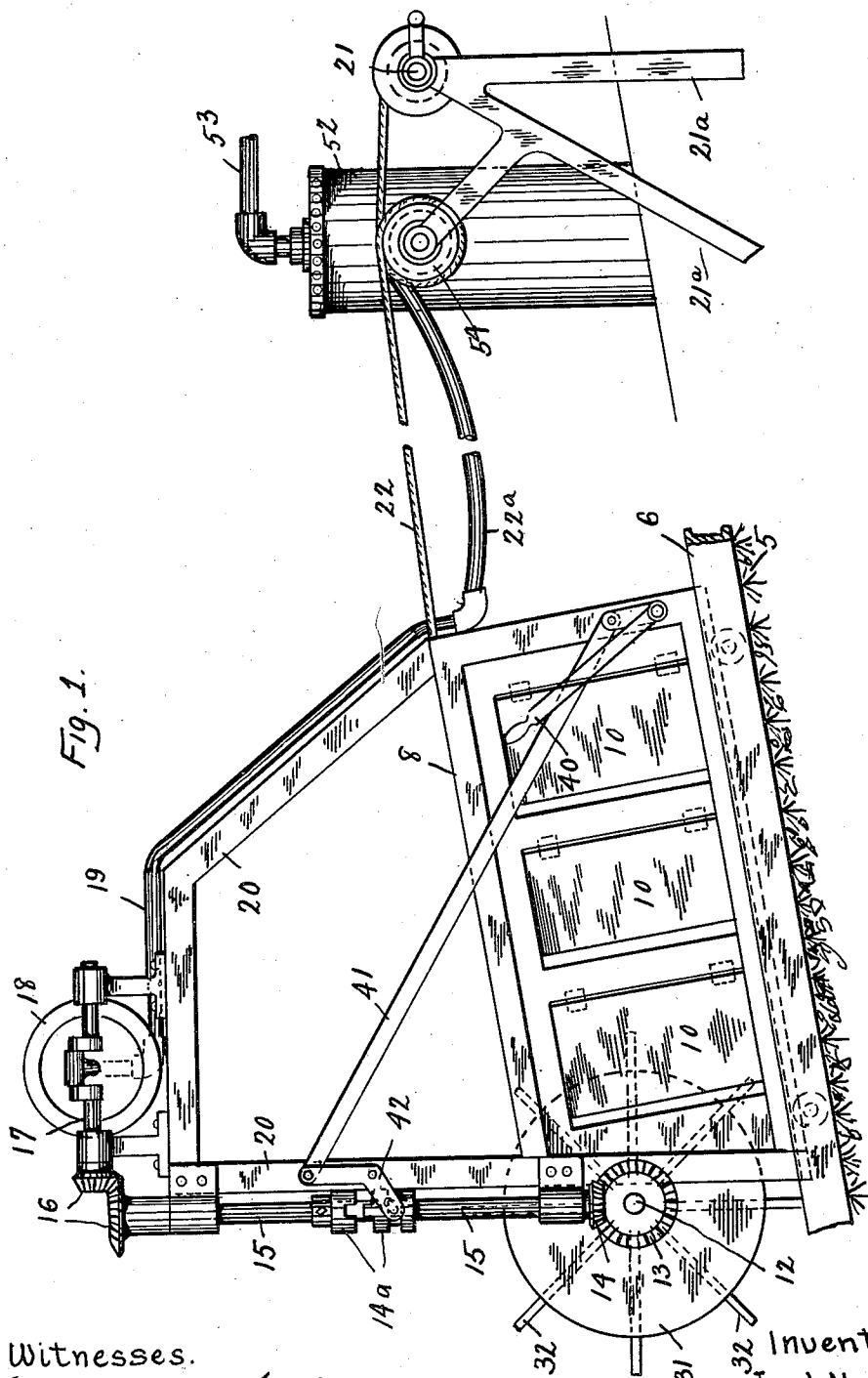


1,033,923.

J. NYSWANDER.
WAVE MOTOR.
APPLICATION FILED DEC. 2, 1911.

Patented July 30, 1912.

2 SHEETS-SHEET 1.



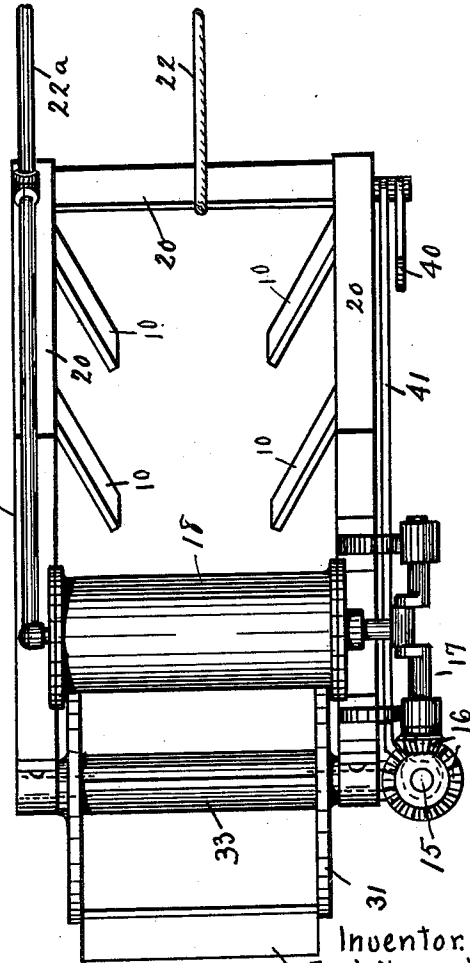
Witnesses.
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WAVE MOTOR.

Patented July 30, 1912.

2 SHEETS—SHEET 2.



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Fig. 2.

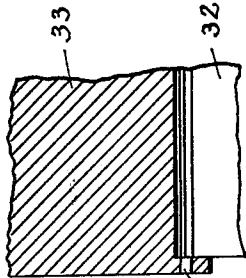


Fig. 4.

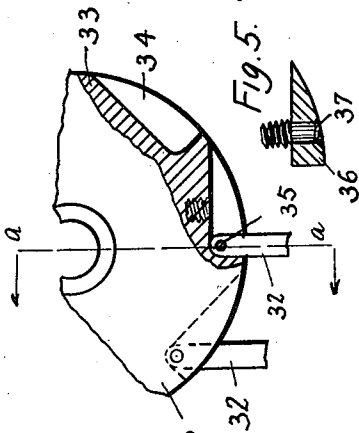


Fig 3.

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JACOB NYSWANDER, OF PUENTE, CALIFORNIA.

WAVE-MOTOR.

1,033,923.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed December 2, 1911. Serial No. 663,490.

To all whom it may concern:

Be it known that I, JACOB NYSWANDER, a citizen of the United States, residing at Puente, Los Angeles county, California, have invented a new and useful Wave-Motor, of which the following is a specification.

My invention relates to an improved construction in wave motors of the kind described in my application for Letters Patent filed Nov. 6th, 1911, Serial Number 658,643 and the object of this invention is to provide a more practical and improved construction embodying the general principles set forth in said application.

The construction of the new and improved mechanism is shown in the accompanying drawings in which—

Figure 1 is a side elevation and Fig. 2 is a top plan view of my complete device. Fig. 3 is an enlarged detail of the hub of the water wheel utilized in my invention. Fig. 4 is a fragmental transverse section of the said water wheel hub. Fig. 5 is a block used to lock the paddles rigidly to the hub.

In the several views like characters indicate like parts, and referring to the details of construction, 5 is a floor or platform. This floor as shown consists of concrete placed on the earth, but in many instances a wooden or metal platform, carried on a piling or otherwise supported, would be found more desirable.

31 is a water wheel consisting principally of paddles 32 hinged to a hub 33 and suitably mounted upon a shaft 12. 34 indicates recesses in the said hub. 35 is the pivot upon which the said paddles 32 are hinged.

36 is a stop block and 37 a stud bolt for securing the block to the hub. When used without the stop blocks the paddles are free to swing inward and allow water to rush into the tank but as the water starts to recede the paddles swing forward against the radial fronts of the recesses 34.

13 and 14 are miter gears adapted to transmit power from the shaft 12 to the vertical shaft 15. The shaft 15 is made in two sections and a sliding dental clutch 14^a is provided. Bearings 15^a retain the shaft 15 in place.

40 is an operating lever connected with the clutch 14^a by means of a connecting rod 41 and a lever 42. By means of the lever 40 the clutch may be released at pleasure and the water wheel allowed to revolve

freely. When the clutch 14^a is closed power is transmitted from the shaft 15 through miter gears 16 to the compressor crank shaft 17. 18 is an air compressor supported upon the framework 20 attached to said tank 8 connected with a flexible pipe 22^a.

It is necessary to raise and lower the motor along the inclined platform 5. This is accomplished by a hoisting machine designated as 21 pulling upon a cable 22 attached to the tank. Any type of hoisting may be used and no particular preference is found, everything varying according to conditions.

A hollow winding drum 50 is connected with the flexible tube 22^a and as the cable is hauled in or played out, the drum winds or unwinds the tube 22^a an equal amount. The compressed air passes from the tube into the drum thence through a hollow shaft 51 and air tight joint into the receiving reservoir 52 from which it is conveyed by the pipe 53 to any desired point. The drum 50 is usually mounted upon the framework 21^a which also supports the cable winding apparatus. The drum 50 is operated by the cable 22 passing around a bull wheel 54 on one end of the said drum.

The block 36 when bolted to the hub locks the paddles in a rigid position. The water wheel 31 then turns backward and forward with every movement of the water.

The operation is further explained as follows: By means of the hoist the tank is raised or lowered and is kept within reach of the waves or tide. The drum 50 also winds and unwinds the flexible air tube as required. The waves coming in around the sides of the tank open the swinging doors and rushing in fill the tank. If the paddles on the wheel are not blocked water also rushes in under the water wheel. If the paddles are blocked as above described some water enters under the wheel while the tank is filling revolving the wheel as it enters. As each wave recedes, the pressure of the water closes the doors and gravity forces the water out of the tank under the wheel 31 revolving the wheel as it goes. Every movement of the wheel operates the compressor and the air compressed thereby is piped to any desired point where it is utilized.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a wave motor: an inclined platform;

a tank having an open front; doors in the sides of said tank; means for moving said tank along said platform; a water wheel consisting of a hub and hinged paddles
5 mounted in the front end of said tank; gearing and shafting for transmitting power from said wheel to an air compressor; and air compressor supported above said tank; means for conveying the compressed air
10 from said compressor to a storage reservoir, and said storage reservoir, all as described.

2. In a wave motor, air inclined platform, a slidable tank having an open front; swinging doors in the sides of said tank; a
15 hoisting apparatus for raising and lowering said tank; a water wheel having hinged paddles mounted at the front end of said tank gearing and shafting for transmitting

power from said wheel to an air compressor; a clutch and operating levers by means
20 of which connection between said wheel and compressor may be released; an air compressor supported above said tank; a flexible tube for conveying the compressed air from
25 said compressor to a receiving tank; a hollow drum with which said tube is connected; a hollow shaft supporting said drum and communicating with a receiving air chamber; and means for revolving said drum
30 and winding and unwinding said flexible tube upon it; all substantially as described and for the uses and purposes set forth.

JACOB NYSWANDER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."